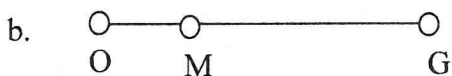


**Module 9 Verifying Segment Relationships Homework**

Write down the following ideas in your own words

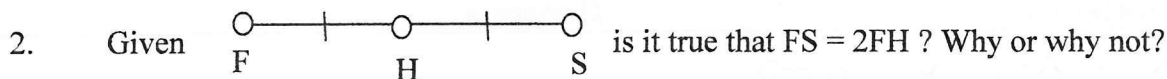
- a. Congruent Segments are segments that.....



In the segment above what is the relationship between putting the two smaller segments together and segment  $\overline{OG}$  ?

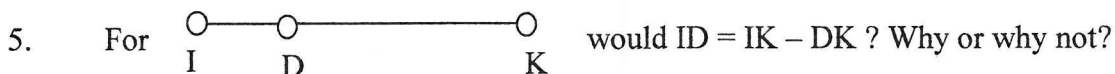
Answer the following questions. Please give explanations clearly and in your own words.

1. Is it OK to say that a single segment is congruent to itself? Why or why not?



3. If B is between A, C is B the midpoint of  $\overline{AC}$  ? Why or why not?

4. If A, B, C are collinear, are they also coplanar? Why or why not?



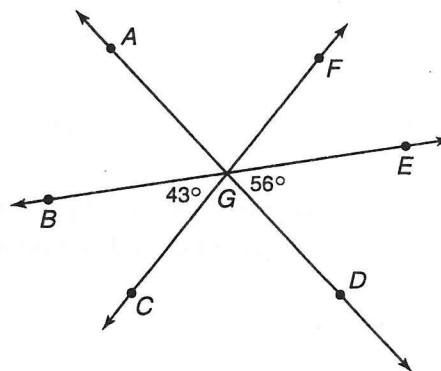
## Practice

Student Edition  
Pages 107-114

## Verifying Angle Relationships

Complete each statement if  $m\angle BGC = 43$  and  $m\angle DGE = 56$ .

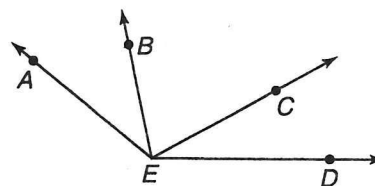
- $\angle FGA \cong$  ?
- $\angle BGF$  and ? are supplementary.
- $m\angle CGD =$  ?
- $m\angle AGF =$  ?
- $\angle EGC$  and ? are supplementary.
- $m\angle AGB =$  ?
- $m\angle AGC =$  ?



Write a two-column proof.

8. Given:  $\angle AEC \cong \angle DEB$ Prove:  $\angle AEB \cong \angle DEC$ 

Proof:



Statements

Reasons

a)  $\angle AEC \cong \angle DEB$

b)  $m\angle AEC = m\angle DEB$

c)  $m\angle AEC = m\angle AEB + m\angle BEC$   
 $m\angle DEB = m\angle DEC + m\angle BEC$

d)  $m\angle AEB + m\angle BEC =$   
 $m\angle DEC + m\angle BEC$

e)  $m\angle AEB = m\angle DEC$

f)  $\angle AEB \cong \angle DEC$